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ABSTRACT

A study was designed to help teachers discover which tools best predict future success in reading proficiency. It sought to find out whether commonly used reading assessments and/or measures of oral reading fluency could predict reading proficiency as measured by a standardized criterion-referenced achievement test of reading. In the first semester of the school year, each of 52 fifth-grade participants was given the Gates MacGinitie Reading Test, San Diego Quick Assessment Test, Curriculum-Based Measures of oral reading fluency, Ekwall Comprehension Questions, and the Multidimensional Fluency Scale. Each of these five scores served as a predictor variable. In the second semester, each of the 52 students was administered the Oklahoma Criterion-Referenced Test of Reading (fifth-grade level), a criterion-referenced test based on the Oklahoma Priority Academic Student Skills (P.A.S.S.). This score served as the criterion variable. Four of the five predictor variables accounted for a relatively robust amount of the total variance; these four variables alone may be useful in predicting reading proficiency. The most robust values of the variance explained were found using combinations of two, three, and four predictor variables; choosing from these might provide a more powerful prediction tool. Finding the most effective method of predicting proficiency depends on several factors: school needs, nature/appropriateness of the test, expertise of the administrator, cost of the test, time, etc. The study should be replicated to verify the results. It should also be replicated with a larger sample. Additionally, future research could examine other prediction aspects. (NKA)

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Oral Reading Fluency: A Predictor of Reading Proficiency in Fifth-Grade Students?

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Purpose and Overview of the Study

- The purpose of this study was to find out whether commonly used reading assessments and/or measures of oral reading fluency could predict reading proficiency as measured by a standardized criterion-referenced achievement test of reading.

- In the first semester of the school year, each of fifty-two fifth-grade participants was given the Gates-MacGinitie Reading Test, San Diego Quick Assessment Test, Curriculum-Based Measures of oral reading fluency, Ekwall Comprehension Questions, and the Multidimensional Fluency Scale. Each of these five scores served as a predictor variable.

- In the second semester, each of the fifty-two students was administered the Oklahoma Criterion Referenced Test of Reading (fifth grade level), a criterion-referenced test based on the Oklahoma Priority Academic Student Skills (P.A.S.S.). This score served as the criterion variable.

- This study examined relationships of each predictor variable alone with the criterion variable, and combinations of the predictor variables with the criterion variable.

Significance of the Study

Realizing fluency (instruction and assessment) is a "Neglected Goal" (Allington, 1983) in the classroom; this study was designed to help teachers discover which tools (including measures of oral reading fluency) best predict future success in reading proficiency. By establishing the answer to this question, teachers might be able to:

- Identify and use accurate, uncomplicated, time-efficient methods to assess students' reading proficiency.
- Identify students who need additional scaffolding throughout the year.
- Avoid unnecessary tests, saving both time for instructional purposes and money for the district.
- Provide continuous, ongoing assessment of children's reading.
- Use results to guide instructional and assessment practices.

Research Questions

1. Is there a relationship between a score on the San Diego Quick Assessment Test and a score on the Oklahoma Criterion Referenced Test of reading?

2. Is there a relationship between a score on the Curriculum-Based Measures of oral reading fluency (Shinn, 1989) and a score on the Oklahoma Criterion Referenced Test of reading?

3. Is there a relationship between a rating on the Multidimensional Fluency Scale (Zutell & Rasinski, 1991) and a score on the Oklahoma Criterion Referenced Test of reading?

4. Is there a relationship between a score from the comprehension questions of the *Ekwall Reading Inventory* (Ekwall, 1986) and a score on the Oklahoma Criterion Referenced Test of reading?

5. Is there a relationship between a score on the Gates-MacGinitie Reading Test and a score on the Oklahoma Criterion Referenced Test of reading?

6. Can any of the above measures predict a score on the Oklahoma Criterion Referenced Test of reading more accurately when working in conjunction with one another that when used as a single measure?

Methodology

Participants:

- 52 fifth-grade students
- Students came from three fifth-grade classes in one school site.
- The school site was a neighborhood school, where over 65% of students received free and reduced lunches.
- 61% Boys, 38% Girls

Instrumentation:

- San Diego Quick Assessment Test (LePray & Ross, 1969)
- Curriculum-Based Measures of oral reading fluency (Shinn, 1989)
- Multidimensional Fluency Scale (Zutell & Rasinski, 1991)
- Questions from *Ekwall Reading Inventory* (1986)
- Gates-MacGinitie Reading Test (4th Edition)
- Oklahoma Criterion Referenced Test of reading – 5th Grade

Procedures:

- In the fall of the school year all students were given the San Diego Quick Assessment Test, Curriculum-Based Measures of oral reading fluency, the Multidimensional Fluency Scale, Ekwall comprehension questions, and the Gates-MacGinitie Reading Test (predictor variables).
- In the spring, all students were administered the Oklahoma Criterion Referenced Test of reading (criterion variable).

Research Design and Data Analysis

- This study employed primarily quantitative analyses to study the nature of the correlation between and predictive nature of five measures of reading proficiency and a state-mandated test of reading achievement.

- Bivariate correlation was utilized to examine the relationships between each of the five predictor variables (individually) and criterion variable (the state-mandated achievement test). Results were tested for statistical significance.

- Multiple regression was utilized to study whether or not a combination of the independent variables better predicts the dependent variable better than when used alone. Results were tested for statistical significance.

- R^2 values for individual contributions and combinations of the predictor variables were found. These revealed how much variance each predictor variable or combination of predictor variables accounted for in the state-mandated achievement test of reading.

Null Hypothesis and Results

The research questions were translated into the following null hypothesis:

1. There is no relationship between a score on the San Diego Quick Assessment Test and a score on the Oklahoma Criterion Referenced Test (fifth grade) of reading.

Number of Variables in Model	Correlation	R-Square	Variables in Model
*1	0.57	0.32	Score of San Diego Quick Assessment Test (SQ)

*Statistically Significant at the .05 Level

2. There is no relationship between a score on the Curriculum-Based Measure of oral reading fluency and a score on the Oklahoma Criterion Referenced Test (fifth grade) of reading.

Number of Variables in Model	Correlation	R-Square	Variables in Model
*1	0.61	0.37	Scores of Curriculum-Based Measures (CBM)

*Statistically Significant at the .05 Level

3. There is no relationship between a rating from the Multidimensional Fluency Scale and a score on the Oklahoma Criterion Referenced Test (fifth grade) of reading.

Number of Variables in Model	Correlation	R-Square	Variables in Model
*1	0.49	0.24	Scores of Multidimensional Fluency Scale (MFS)

*Statistically Significant at the .05 Level

4. There is no relationship between a score from the comprehension questions of the *Ekwall Reading Inventory* and a score on the Oklahoma Criterion Referenced Test of reading.

Number of Variables in Model	Correlation	R-Square	Variables in Model
*1	0.33	0.11	Scores of Ekwall Comprehension Questions (E)

*Statistically Significant at the .05 Level

5. There is no relationship between a score from the Gates-MacGinitie Reading Test (4th Edition) and a score on the Oklahoma Criterion Referenced Test of reading.

Number of Variables in Model	Correlation	R-Square	Variables in Model
*1	0.63	0.40	Scores of Gates-MacGinitie Reading Test (GM)

*Statistically Significant at the .05 Level

6. None of the measures - the San Diego Quick Assessment Test, the Curriculum-Based Measure of oral reading fluency, a rating from the Multidimensional Fluency Scale, a score from the *Ekwall Reading Inventory* comprehension questions, or a score from the Gates-MacGinitie Reading Test (4th Edition) can predict a score on the Oklahoma Criterion Referenced Test (fifth grade) of reading more accurately when working in conjunction with one another than when used as a single measure.

Number of Variables in Model	R^2	Variables in Model
*2	0.46	GM, CBM
*2	0.46	GM, SQ
*2	0.43	GM, MFS
*2	0.42	CBM, E
*2	0.42	GM, E
*2	0.42	E, SQ
*2	0.41	CBM, SQ
*2	0.38	CBM, MFS
*2	0.37	SQ, MFS
*2	0.30	E, MFS

*Statistically Significant at the .05 Level

Number of Variables in Model	R^2	Variables in Model
*3	0.49	E, GM, SQ
*3	0.49	CBM, E, GM
*3	0.48	CBM, GM, SQ
*3	0.47	CBM, E, SQ
*3	0.46	GM, SQ, MFS
*3	0.46	CBM, GM, MFS
*3	0.44	E, GM, MFS
*3	0.43	E, SQ, MFS
*3	0.43	CBM, E, MFS
*3	0.41	CBM, SQ, MFS
*4	0.51	CBM, E, GM, SQ
*4	0.50	E, GM, SQ, MFS
*4	0.49	CBM, E, GM, MFS
*4	0.48	CBM, GM, SQ, MFS
*4	0.47	CBM, E, SQ, MFS
*5	0.51	All Scores Together

*Statistically Significant at the .05 Level

Results

- All Pearson correlations between the five predictor variables and the criterion variable were statistically significant at the .05 level.

- Four of the five individual predictor variables were able to account for a statistically significant amount of the variance (R^2) in the state-mandated achievement test of reading.

- Combinations of two, three, four and five predictor variables accounted for a greater proportion of variance in the state-mandated achievement test of reading than did individual predictor variables.

- Combining all five predictor variables did not account for more variance than did combinations using fewer predictor variables.

Discussion

- Four of the five predictor variables accounted for a relatively robust amount of the total variance; thus, these four variables alone may be useful in predicting reading proficiency.

- The most robust values of the variance explained were found using combinations of two, three, and four predictor variables. Thus, choosing from these might provide a more powerful prediction tool.

- Finding the most effective, yet parsimonious method of predicting student proficiency using these combinations depends on several factors, including (but not limited to): school needs, nature/appropriateness of the test, expertise of the administrator, cost of the test, time (both in terms of preparation, testing and time lost for instruction), administration requirements and the like.

Implications for Practice

1. Instructional Planning:
    - Teachers could use one or more of the measures described in this study to initiate "problem analysis on the students' reading difficulty in order to tailor instruction to the student's educational needs" (Stage, 2001, p. 418).

2. Mediating:
    - Teachers could use the assessment techniques described to identify students who are likely to make a passing/non-passing score on the state-mandated achievement test of reading.

    - Teachers could utilize the testing results in a formative nature, noting progress of the students' reading proficiency throughout the year; consequently modifying instruction to best meet the needs of the pupils.

Implications for Future Research Include:

- Replication of the study in the same setting to examine whether or not the results of this study stand up over time and with different groups of students.

- Replication of this study with a larger sample size.

- Replication of this study in different settings and with different groups of students to find how or if varied groups would alter the results.

- Field-testing the findings of this study by choosing a regression equation, inserting students' scores, and testing the predictive power of the equation(s) chosen.

- Examining how multiple administrations of some measures might better predict reading proficiency as opposed to a single administration.

- Studying of the relationship between oral reading fluency and the reading proficiency of children learning English as a second language.

- Conducting a longitudinal study, tracking reading proficiency across the elementary grades, using one or more of the predictor variables from this study, noting the predictive power of fluency across and over grade levels.

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